

Claims:

1. A medical device for vessel occlusion, the  
medical device comprising:

an elongated body having a distal end portion, a  
5 proximal end portion, and a lumen disposed therethrough;

an balloon disposed at the distal end portion of  
the elongated body, the balloon in fluid communication  
with the lumen;

an opening defined at the proximal end portion of  
10 the elongated body, the opening being in fluid  
communication with the balloon via the lumen; and

a valve body moveably disposed at the proximal end  
portion of the elongated body, the valve body movable  
between a closed position and an open position, the  
15 valve body configured to engage a surface of the  
elongated body, distal to the opening, to seal the  
opening when the valve body is in the closed position.

2. The medical device according to Claim 1, wherein  
the surface engaged by the valve body when in the closed  
20 position is an outer surface of the elongated body.

3. The medical device according to Claim 1, wherein at least part of the proximal end portion of the elongated body has an outer cross-dimension less than an outer cross-dimension of the distal end portion of the elongated body.

4. The medical device according to Claim 3, wherein the valve body includes a side wall having a cavity defined therein to receive the proximal end portion of the elongated body, the valve body having an outer surface substantially flush with an outer surface of the distal end portion of the elongated body when in the closed position.

5. The medical device according to Claim 1, wherein the opening is defined in a side wall of the proximal end portion of the elongated body.

6. The medical device according to Claim 1, wherein an inflation port is defined in a side wall of the valve body.

7. The medical device according to Claim 1, wherein the valve body and the elongated body are configured for mating engagement to prevent inadvertent movement of the valve body at least when in the closed position.

5 8. The medical device according to Claim 7, wherein the mating engagement includes a projection extending from a surface of at least one of the valve body and elongated body.

9. The medical device according to Claim 1, wherein  
10 the valve body is moveable in an axial and rotational direction relative to the elongated body.

10. A medical device for vessel occlusion, the medical device comprising:

an elongated body having a distal end portion, a  
15 proximal end portion, and a lumen disposed therethrough;

an balloon disposed at the distal end portion of the elongated body, the balloon in fluid communication with the lumen;

an opening defined at the proximal end portion of the elongated body, the opening being in fluid communication with the balloon via the lumen; and

5 a valve body moveably disposed at the proximal end portion of the elongated body, the valve body movable between a closed position and an open position, the valve body configured to engage an outer surface of the elongated body to seal the opening when the valve body is in the closed position.

10 11. The medical device according to Claim 10, wherein at least part of the proximal end portion of the elongated body has an outer cross-dimension less than an outer cross-dimension of the distal end portion of the elongated body.

15 12. The medical device according to Claim 11, wherein the valve body includes a side wall having a cavity defined therein to receive the proximal end portion of the elongated body, the valve body having an outer surface substantially flush with an outer surface of the  
20 distal end portion of the elongated body when in the closed position.

13. The medical device according to Claim 10, wherein the valve body and the elongated body are configured for mating engagement to prevent inadvertent movement of the valve body at least when in the closed position.

5 14. The medical device according to Claim 13, wherein the mating engagement includes a projection extending from a surface of at least one of the valve body and elongated body.

10 15. The medical device according to Claim 10, wherein the valve body is moveable in an axial and rotational direction relative to the elongated body.

16. The medical device according to Claim 10, wherein the elongated body is constructed of Nitinol.

15 17. The medical device according to Claim 10, wherein the proximal end of the elongated body has a diameter less than the distal end.

18. The medical device according to Claim 17, wherein the elongated body further includes a step adjacent to

the proximal end of the elongated body wherein the step transitions the elongated body between the distal diameter and the proximal diameter.

19. The medical device according to Claim 18, wherein  
5 when the valve body is in a closed position the valve body sealingly engages the step.

20. A medical device for vessel occlusion, the medical device comprising:

an elongated body having a distal end portion, a  
10 proximal end portion, and a lumen disposed therethrough;

an balloon disposed at the distal end portion of the elongated body, the balloon in fluid communication with the lumen;

an opening defined at the proximal end portion of  
15 the elongated body, the opening being in fluid communication with the balloon via the lumen; and

a valve body moveably disposed at the proximal end portion of the elongated body, the valve body movable between a closed position and an open position, the  
20 valve body configured to engage an outer surface at the proximal end portion of the elongated body, distal to

the opening, to seal the opening when the valve body is  
in the closed position, the valve body including a side  
wall having a cavity defined therein to receive the  
proximal end portion of the elongated body, and an outer  
5 surface substantially flush with an outer surface of the  
distal end portion of the elongated body when in the  
closed position, at least one of the valve body and the  
elongated body having a projection extending therefrom  
for mating engagement with the other of the valve body  
10 and the elongated body to prevent inadvertent movement  
of the valve body at least when in the closed position.